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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,082	10/29/2003	Michael P. Long	65881-013	5936

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EXAMINER

PATEL, SHEFALI D

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,082

Applicant(s)

LONG, MICHAEL P.

Examiner

Shefali D. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 35-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/25/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment was received on May 15, 2006.
2. Claims 21-34 remain cancelled and claims 35-40 are newly added.

Response to Arguments

3. Applicant's arguments, see Remarks (pages 7-8), filed on May 15, 2006, with respect to the rejection(s) of claim(s) 1-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Owechko et al.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-10, 12-15, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (hereinafter, "Huang") (US 5,953,055) in view of Owechko et al. (hereinafter, "Owechko") US 6,801,662 B1.

With regard to **claim 1** Huang discloses a queuing management system for managing a queue of waiting vessels or persons having a pass-through point (col. 2 lines 37-53) comprising: a camera system configured to generate one or more images of the queue and sequential images of the pass-through point (camera system 110 and video processor 140, col. 2 lines 54-68, col. 3 lines 32-40); and an image processing system configured to calculate information indicative of the anticipated delay in the queue based on the images from the camera system (Huang identifies the location of the zone in the queue col. 4 lines 6-21 and images of the queue are divided into the zone col. 4 line 65 and col. 7 line 4. After which

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the background of the image is analyzed and system outputs the number of person in the queue and amount of time as seen in Table 3 on col. 13. The amount of time it takes person to go thru the queue is determined as well as number of people waiting in the queue to determine the delay, col. 13 lines 24-68). Huang does not expressly disclose determining density of edges in at least one of the images. Owechko discloses this at col. 8 lines 50-59, col. 9 lines 13-30. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Owechko with Huang. The motivation for doing so is to derive occupant features from the edge map novel and simple way. Therefore, it would have been obvious to combine Owechko with Huang to obtain the invention as specified in claim 1.

With regard to **claim 2** Huang discloses calculating rate at which vessels pass through the pass-through point based on the images (Huang calculates the number of people in the time as well as the waiting time. Rate is a ratio of these two elements. Col. 5 line 64 to col. 6 lines 1-14; Col. 13 lines 24-32).

With regard to **claim 3** Huang discloses calculating number of vessels in the queue based on the images at Col. 5 line 64 to col. 6 lines 1-14; Col. 13 lines 24-32.

With regard to **claim 4** Huang discloses the image processing system configured to calculate the number of vessels or person in the queue (Col. 5 line 64 to col. 6 lines 1-4) by determining the length of the queue based on the images (col. 6 lines 5-18) and by dividing this length by a number representative of the anticipated average length of the portion of the queue occupied by each vessel or person (dividing these two elements to obtain the waiting time and/or delay at col. 13 lines 24-68).

With regard to **claim 5** Huang discloses the image processing system configured to also calculate the delay in the queue by dividing the number of vessels or persons in the queue by the rate at which vessels or persons pass through the pass-through point person (dividing the number of people in the queue

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by the rate (dividing number of people waiting in the line by the waiting time) and/or delay at col. 13 lines 24-68).

Claim 7 recites identical features as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 7.

Claim 8 recites identical features as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 8. Please note the limitation of rate disclosed above in claims 2 and 4-5.

Claim 9 recites identical features as claim 3. Thus, arguments similar to that presented above for claim 3 is equally applicable to claim 9.

Claim 10 recites identical features as claim 4. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 10.

Claim 12 recites identical features as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 12. Please note that sequential images of the passageway are generated by the video processor 140 (one or more video cameras 110) at col. 2 lines 40-48 and col. 4 lines 39-47.

Claim 13 recites identical features as claim 12. Thus, arguments similar to that presented above for claim 12 is equally applicable to claim 13. Please note that sequential images of the passageway are generated by the video processor 140 (one or more video cameras 110) at col. 2 lines 40-48 and col. 4 lines 39-47.

Claim 14 recites identical features as claim 4. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 14.

With regard to **Claim 15** Huang discloses the image processing system configured to determine the length of the queue by determining where in at least one of the images the density of edges falls below a threshold (col. 3 lines 59 to col. 4 lines 1-5).

Claim 17 recites identical features as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 17.

Claim 18 recites identical features as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 18.

Claim 20 recites identical features as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 20. Please note that at col. 13 lines 29-31 and as seen in Table 1 at “count” field, number of vessels is being counted.

6. Claims 6, 11, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (hereinafter, “Huang”) (US 5,953,055) in view of Owechko et al. (hereinafter, “Owechko”) US 6,801,662 B1 as applied to claims 1-5, 7-10, 12-15, 17-18 and 20 above, and further in view of Haynes et al. (hereinafter, “Haynes”) (US 6,816,085).

With regard to **claim 6** Huang (modified by Owechko) discloses calculating information indicative of the anticipated delay of persons and/or “other objects” based on the images (col. 2 lines 50-54) as disclosed above in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Huang does not expressly disclose vehicles as the object in the queue. Haynes discloses vehicles in the queue for management of the parking lot at col. 4 lines 5-64; col. 13 lines 20-35 and col. 20 lines 22-26. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Haynes with Huang and Owechko. The motivation for doing so is to count number of vehicle (in Haynes) instead of persons (in Huang) and processing that information for anticipated delay. Note, Haynes also counts the number of empty space in the parking lot as well as number of persons in each line at checkout. Therefore, it would have been obvious to combine Haynes with Huang and Owechko to obtain the invention as specified in claim 6.

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Claim 11 recites identical features as claim 2. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 11. Please note that at the time of the invention, it would have been obvious to a person of ordinary skill in the art to obtain the rate at which vehicles pass thru the passageway instead of persons. The motivation for doing so is to count number of vehicle (in Haynes) instead of persons (in Huang) and processing that information for anticipated delay. Note, Haynes also counts the number of empty space in the parking lot as well as number of persons in each line at checkout. Therefore, it would have been obvious to combine Haynes with Huang to obtain the invention as specified in claim 11.

Claim 16 recites identical features as claim 6. Thus, arguments similar to that presented above for claim 6 is equally applicable to claim 16.

Claim 19 recites identical features as claim 11. Thus, arguments similar to that presented above for claim 11 is equally applicable to claim 19. In order to obtain the rate, number of vehicles would need to be obtained beforehand.

7. Claims 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (hereinafter, "Huang") (US 5,953,055) in view of Owechko et al. (hereinafter, "Owechko") US 6,801,662 B1 as applied to claims 1-5, 7-10, 12-15, 17-18 and 20 above, and further in view of Norimatsu (US 6,697,537).

With regard to **claim 35** Huang (modified by Owechko) discloses image processing system as disclosed above in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Huang does not expressly disclose detecting presence or absence of a color from the images of the pass-through point. Norimatsu discloses this at col. 11 lines 9-11 and 27-35. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Haynes with Owechko and Norimatsu. The motivation for doing so is to determine the color in order to determine the

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edge portion extraction as suggested by Norimatsu. Therefore, it would have been obvious to combine Haynes with Owechko and Norimatsu to obtain the invention as specified in claim 35.

Claim 36 recites identical features as claim 35. Thus, arguments similar to that presented above for claim 35 is equally applicable to claim 36.

Claim 37 recites identical features as claim 35. Thus, arguments similar to that presented above for claim 35 is equally applicable to claim 37.

Claim 38 recites identical features as claim 35. Thus, arguments similar to that presented above for claim 35 is equally applicable to claim 38.

Claim 39 recites identical features as claim 35. Thus, arguments similar to that presented above for claim 35 is equally applicable to claim 39.

Claim 40 recites identical features as claim 35. Thus, arguments similar to that presented above for claim 35 is equally applicable to claim 40.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D. Patel whose telephone number is 571-272-7396. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shefali D Patel
Examiner
Art Unit 2624

sdp

JINGGE WU
PRIMARY EXAMINER